MATHEMATICS CROSSWALK
2008 MATHEMATICS STANDARD TO 2003 MATHEMATICS STANDARD
GRADE 1

MATHEMATICS STANDARD ARTICULATED BY GRADE LEVEL				
Strand 1: Number and Operations				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Number Sense	1	Express whole numbers 0 to 100, in groups of tens and ones using and connecting multiple representations.	1	Make a model to represent a given whole number 0 through 100.
			2	Identify a whole number represented by a model with a word name and symbol 0 through 100.
			4	Identify whole numbers through 100 in or out of order.
			5	Write whole numbers through 100 in or out of order.
			6	Construct equivalent forms of whole numbers, using manipulatives or symbols, through 99 (e.g., 15 + 5 = 10 + 10).
			7	State verbally whole numbers, through 100, using correct place value (e.g., A student will read 84 as eight tens and four ones.).
			8	Construct models to represent place value concepts for the one's and ten's places.
			9	Apply expanded notation to model place value through 99. (e.g.' 37 = 3 groups of ten + 7 units)
	2	Count forward to 100 and backward from 100 by 1s and 10s using different starting points, and count forward to 100 by 2s and 5s.	3	Count aloud, forward or backward, in consecutive order (0 through 100).
			M01-S1C2-08	Count by multiples to show the process of multiplication (10s, 5s, or 2s).
	3	*Identify numbers which are 10 more or less than a given number to 90.*		

* This performance objective is new to the 2008 Mathematics Standard Articulated by Grade Level.

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Strand 1: Number and Operations				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Number Sense	4	Compare and order whole numbers through 100 by applying the concept s of place value.	8	Construct models to represent place value concepts for the one's and ten's places.
			11	Compare two whole numbers through 100.
			13	Order three or more whole numbers through 100 (least to greatest or greatest to least).
	5	Recognize and compare ordinal numbers, first through tenth.	12	Use ordinal numbers through tenth.
			M02-S1C1-12	Use ordinal numbers.
	M02-S1C1-06	**Moved to Grade 2**	10	Identify odd and even whole numbers through 100.
	M03-S1C1-05	**Moved to Grade 3**	14	Make models that represent given fractions (halves).
	M03-S1C1-05	**Moved to Grade 3**	15	Identify in symbols and in words a model that is divided into equal fractional parts (halves).
	M02-S1C1-05	**Moved to Grade 2**	16	Identify money by name and value: penny, nickel, dime, quarter, and one dollar.
	M02-S1C1-05	**Moved to Grade 2**	17	Count money through $1.00 using coins.
	M02-S1C1-05	**Moved to Grade 2**	18	Identify the value of a collection of coins using the symbols ¢ and $.

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Strand 1: Number and Operations				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
2. Numerical Operations	1	Solve contextual problems using multiple representations for addition and subtraction facts.	4	Add one- and two-digit whole numbers without regrouping.
			5	Subtract one- and two-digit whole numbers without regrouping.
			7	Solve word problems using addition and subtraction of 2-digit numbers without regrouping.
	2	Demonstrate addition and subtraction of numbers that total less than 100 by using various representations that connect to place value concepts.	1	Demonstrate the process of addition through sums of 20 using manipulatives.
			2	Demonstrate the process of subtraction with minuends of 20 using manipulatives.
			4	Add one- and two-digit whole numbers without regrouping.
			5	Subtract one- and two-digit whole numbers without regrouping.
	3	Develop and use multiple strategies for addition facts to 10+10 and their related subtraction facts.	3	State addition facts for sums through 18 and subtraction for differences with minuends through 9 or less.
			9	Demonstrate families of equations for addition and subtraction through 18.
	4	Create word problems based on addition and subtraction facts.	M01-S5C1-01	Create problems based on contextual situations (addition facts up to 18 and subtraction from 9).
	5	Apply properties to solve addition/subtraction problems • identity property of addition/subtraction and • commutative property of addition.	10	Demonstrate the identity and commutative properties of addition through 18.
		REMOVED (This skill is required throughout the standard).	6	Select the grade-level appropriate operation to solve word problems.

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Strand 1: Number and Operations				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
2. Numerical Operations	M01-S1C1-02	**Moved to Strand 1 Concept 1**	8	Count by multiples to show the process of multiplication (10s, 5s, or 2s).
	M02-S1C2-04	**Moved to Grade 2**	11	Identify addition and subtraction as inverse operations.
	M00-S3C3-02	**Moved to Kindergarten (= symbol only)**	12	Apply the symbols: +, -, =.
	M01-S3C3-03	**Moved to Strand 3 Concept 3**		
		REMOVED (This skill is required throughout the standard).	13	Use grade-level appropriate mathematical terminology.
	M04-S1C2-01	**Moved to Grade 4**	14	Demonstrate addition of fractions with like denominators (halves) using models.
	M04-S1C2-01	**Moved to Grade 4**	15	Demonstrate subtraction of fractions with like denominators (halves) using models.
	M02-S1C2-02	**Moved to Grade 2**	16	Add and subtract money without regrouping using manipulatives and paper and pencil, through 99¢.
3. Estimation	1	Use estimation to determine if sums are more or less than 5, more or less than 10, or more or less than 20.	1	Solve problems using a variety of mental computations and reasonable estimation.
	M00-S4C4-02	**Moved to Grade K**	2	Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.
	M01-S4C4-01	**Moved to Strand 4 Concept 4**		

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Strand 2: Data Analysis, Probability, and Discrete Mathematics				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Data Analysis (Statistics)	1	Collect, record, organize, and display data using tally charts or pictographs.	2	Make a simple pictograph or tally chart with appropriate labels from organized data.
	2	Ask and answer questions by interpreting simple displays of data, including tally charts or pictographs.	3	Interpret pictographs using terms such as most, least, equal, more than, less than, and greatest.
			4	Answer questions about pictographs using terms such as most, least, equal, more than, less than, and greatest.
			5	Formulate questions based on graphs, charts, and tables.
			6	Solve problems using graphs, charts, and tables.
			M00-S2C1-05	Solve problems based on simple graphs, charts, and tables.
		REMOVED	1	Formulate questions to collect data in contextual situations.
2. Probability		**No performance objectives at this grade level.**		
3. Systematic Listing and Counting	1	Use Venn diagrams to sort, classify, and count objects and justify the sorting rule.	M01-S5C2-02	Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).
	M03-S2C3-01	**Moved to Grade 3**	1	Make arrangements that represent the number of combinations that can be formed by pairing items taken from 2 sets, using manipulatives (e.g., How many ice cream cones can one make with 2 different types of ice cream and 2 different types of cones?).
4. Vertex-Edge Graphs		**No performance objectives at this grade level.**		
	M02-S2C4-01	**Moved to Grade 2**	1	Color pictures with the least number of colors so that no common edges share the same color (increased complexity throughout grade levels).

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Strand 3: Patterns, Algebra, and Functions				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Patterns	1	Recognize, describe, extend, create, and record repeating patterns.	1	Communicate orally a grade-level appropriate pattern.
			2	Extend simple repetitive patterns using manipulatives.
			3	Create grade-level appropriate patterns.
	2	Recognize, describe, extend, create, and record growing patterns.	1	Communicate orally a grade-level appropriate pattern.
			3	Create grade-level appropriate patterns.
2. Functions and Relationships		**No performance objectives in this grade level.**		
3. Algebraic Representations	1	*Record equivalent forms of whole numbers to 100 by constructing models and using numbers.*		
	2	*Compare expressions using spoken words and the symbols = and ≠.*		
	3	Represent a word problem requiring addition or subtraction facts using an equation.	2	Find the missing sum or difference in number sentences for sums and minuends through 9 (e.g., 2 + 5 = _).
			M01-S1C2-12	Apply the symbols: **+, -, =**.
	M03-S3C3-02	**Moved to Grade 3**	1	Use variables in contextual situations.
4. Analysis of Change		**No performance objectives in this grade level.**		
	M04-S3C4-01	**Moved to Grade 4**	1	Identify the change in a variable over time (e.g., an object gets taller, colder, heavier, etc.).
			2	Make simple predictions based on a variable (e.g., select next stage of plant growth).

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Strand 4: Geometry and Measurement				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Geometric Properties	1	Identify and draw 2-dimensional geometric figures based on given attributes regardless of size or orientation.	1	Use the words vertex and side when describing simple 2-dimensional geometric shapes.
			2	Identify 2-dimensional shapes by attribute (size, shape, number of sides, vertices).
			4	Name common 2-dimensional shapes (square, rectangle, triangle, circle).
			5	Draw 2-dimensional shapes (square, rectangle, triangle, circle).
	2	Compare and sort basic 2-dimensional figures (including irregular figures) using attributes and explain the reasoning for the sorting.	M01-S5C2-02	Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).
	3	*Describe the results of composing and decomposing 2-dimensional figures.*		
	M00-S4C1-03	**Moved to Grade K**	3	Use concepts and terms of position and size in contextual situations: • Inside/outside, • Left/right, • Above/below/between, • Smaller/larger, and • Longer/shorter.
	M02-S4C2-01	**Moved to Grade 2**	6	Recognize where a line of symmetry divides a 2-dimensional shape into mirror images.
2. Transformation of Shapes		**No performance objectives at this grade level.**		
	M03-S4C2-01	**Moved to Grade 3**	1	Recognize same shape in different positions (slide/translations).
3. Coordinate Geometry		**No performance objectives at this grade level.**		

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Strand 4: Geometry and Measurement				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
4. Measurement	1	Compare and order objects according to length, capacity, and weight.	1	Compare the measurable characteristics of two objects (e.g., length, weight, size).
			M01-S1C3-02	Estimate the measurement of an object using U.S. customary standard and non-standard units of measurement.
	2	Measure and compare the length of objects using the benchmark of one inch.	7	Measure a given object using the appropriate unit of measure: • length – inches, feet and yards, • capacity/volume – cups, gallons, and mass/weight – pounds.
	3	Sequence the days of the week and the months of the year.	4	Name the days of the week for yesterday, today, and tomorrow (e.g., If today is Wednesday, what day will it be tomorrow?).
			5	Name the 12 months of the year in proper order, starting with January.
			6	Name the 7 days of the week in proper order, starting with Sunday.
	M02-S4C4-02	**Moved to Grade 2**	2	Select the appropriate measure of accuracy: • length – inches, feet, • capacity/volume – cups, gallons, and • mass/weight – pounds.
	M02-S4C4-01	**Moved to Grade 2**	3	Tell time to the hour using analog and digital clocks.
	M03-S4C4-01	**Moved to Grade 3**		

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Strand 5: Structure and Logic				
CONCEPT	**2008 PO**	**ITEM DESCRIPTION**	**2003 PO**	**ITEM DESCRIPTION**
1. Algorithms and Algorithmic Thinking		**No performance objectives at this grade level.**		
	M01-S1C2-04	**Moved to Strand 1 Concept 2**	1	Create problems based on contextual situations (addition facts up to 18 and subtraction from 9).
2. Logic, Reasoning, Problem Solving, and Proof	1	*Identify the question(s) asked and any other questions that need to be answered in order to find a solution.*		
	2	Identify the given information that can be used to find a solution.	1	List the quantitative components found in word problems.
	3	*Select from a variety of problem-solving strategies and use one or more strategies to arrive at a solution.*		
	M01-S2C3-01 M01-S4C1-02	**Moved to Strand 2 Concept 3 and Strand 4 Concept 1**	2	Provide rationale for classifying objects according to observable attributes (color, size, shape, weight, etc.).
	4	*Represent a problem situation using any combination of words, numbers, pictures, physical objects, or symbols.*		
	5	*Explain and clarify mathematical thinking.*		
	6	*Determine whether a solution is reasonable.*		

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